

## DETAILED ACTION

### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Jeffrey Lotspeich on 09/23/2009.

The claims have been amended as follows:

28. (Currently amended) ~~1- a~~ A radio communication system for providing and receiving data of a point-to-multipoint service, the radio communication system comprising a radio network controller comprising:

one or more terminals;

a radio network controller coupled to the one or more terminals, the radio network controller comprising:

a header compressing portion that performs Internet protocol header compression to form header compressed data; and

a transmitter portion configured to:

in a point-to-point service, transmit the header compressed data to one or more user equipment (UE) of the radio communication system;

in a point-to-multipoint service, transmit the header compressed data from a packet data convergence protocol (PDCP) entity to a plurality of UEs, wherein the header compressed data is transmitted over a common transport channel to each of the plurality of UEs of the radio communication system;

wherein the point-to-multipoint service is a multimedia broadcast/multicast service (MBMS) and one PDCP entity exists in the CRNC for the plurality of UEs of the radio communication system which individually receive the point-to-multipoint service from the CRNC in the case of the point-to-multipoint service, and

wherein in the case of the point-to-point service, the PDCP entity is located within a layer of a first network protocol stack that is located above a layer in which a radio link control (RLC) entity is located and above a layer in which a medium access control (MAC) entity is located, and

wherein in the case of the point-to-multipoint service, the PDCP entity is located within a layer of a second network protocol stack, which does not include a physical layer, that is located above a layer in which a radio link control (RLC) entity is located, and above a layer in which a medium access control (MAC) entity is located.

71. (Currently amended) A wireless communication system for providing Internet protocol header information, the wireless communication system comprising:

one or more terminals;

a radio network controller coupled to the one or more terminals, the radio network controller comprising:

a header compression module adapted to receive Internet protocol header information from an internet protocol module and compress the Internet protocol header information to form compressed header data;

a transmitter module configured to:

in a point-to-point service, transmit the header compressed data to one or more terminals of the wireless communication system; and

in a point-to-multipoint service, transmit the header compressed data from a packet data convergence protocol (PDCP) entity to a plurality of terminals, wherein the header is transmitted over a common transport channel to each of the plurality of terminals of the wireless communication system;

a receiving module configured to:

in a point-to-point service, receive header compressed data from the wireless communication system;

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in a point-to-multipoint service, receive the header compressed data over a common transport channel from the wireless communication system;

wherein in the case of the point-to-point service, the PDCP entity is located within a layer of a first network protocol stack that is located above a layer in which a radio link control (RLC) entity is located and above a layer in which a medium access control (MAC) entity is located;

wherein a multimedia broadcast/multicast service (MBMS) is provided to the plurality of terminals and one PDCP entity exists in the CRNC for the plurality of terminals of the wireless communication system which individually receive the point-to-multipoint service from the CRNC in the case of the point-to-multipoint service, and

wherein in the case of the point-to-multipoint service, the PDCP entity is located within a layer of a second network protocol stack, which does not include a physical layer, that is located above a layer in which a radio link control (RLC) entity is located, and above a layer in which a medium access control (MAC) entity is located.

51. (Currently amended) A method of providing Internet protocol header information in a wireless communication system, the method comprising:

performing header compression of Internet protocol header information to form compressed header data; and

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in a point-to-point service, transmitting the header compressed data to one or more terminals of the wireless communication system;

in a point-to-multipoint service, transmitting the header compressed data from a packet data convergence protocol (PDCP) entity to a plurality of terminals, wherein the header compressed data is transmitted over a common transport channel to each of the plurality of terminals of the wireless communication system;

wherein the Internet protocol header compression is performed in a PDCP entity located within a serving radio network controller (SRNC) in the case of the point-to-point service and within a controlling radio network controller (CRNC) in the case of the point-to-multipoint service,

wherein in the case of the point-to-point service, the PDCP entity is located within a layer of a first network protocol stack that is located above a layer in which a radio link control (RLC) entity is located and above a layer in which a medium access control (MAC) entity is located;

wherein the point-to-multipoint service is a multimedia broadcast/multicast service (MBMS) and one PDCP entity exists in the CRNC for the plurality of terminals of the wireless communication system which individually receive the point-to-multipoint service from the CRNC in case of the point-to-multipoint service, and

wherein in the case of the point-to-multipoint service, the PDCP entity is located within a layer of a second network protocol stack, which does not include a physical layer, that is located above a layer in which a radio link control (RLC)

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entity is located, and above a layer in which a medium access control (MAC) entity is located.

### ***Reasons for Allowance***

The following is an examiner's statement of reasons for allowance:

Claims 1-6, 8-10, 13, 16, 18-23, 25, 28, 30, 32, 35, 39, 42, 51-54, 56, 71, 72, 74, 75 are allowed. The prior art of record does not teach the claimed invention, as follows.

For independent claims 1, 18, 28, 35, 42, 51, 71, the prior art does not teach an IP header compression technique for IP point-to-multipoint services;

wherein the Internet protocol header compression is performed in a PDCP (packet data convergence protocol) entity located within a serving radio network controller (SRNC) in the case of the point-to-point service and within a controlling radio network controller (CRNC) in the case of the point-to-multipoint service;

wherein in the case of the point-to-point service, the PDCP entity is located within a layer of a first network protocol stack that is located above a layer in which a radio link control (RLC) entity is located and above a layer in which a medium access control (MAC) entity is located;

wherein the point-to-multipoint service is a multimedia broadcast/multicast service (MBMS) and one PDCP entity exists in the CRNC for the users the plurality of user equipments of the radio communication system which individually

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receive the point-to-multipoint service from the CRNC in the case of the point-to-multipoint service, and

wherein in the case of the point-to-multipoint service, the PDCP entity is located within a layer of a second network protocol stack, which does not include a physical layer, that is located above a layer in which a radio link control (RLC) entity is located, and above a layer in which a medium access control (MAC) entity is located.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure is included in form PTO 892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hieu T. Hoang whose telephone number is 571-270-1253. The examiner can normally be reached on Monday-Thursday, 8 a.m.-5 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on 571-272-3964. The

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fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HH

/Kenny S Lin/

Primary Examiner, Art Unit 2452